Name:

at1113exam: Expand, factor, and solve quadratics (v0)

1. Expand the following expression into standard form.

$$(6x - 5)(6x + 5)$$

$36x^2 + 30x - 30x - 25$

$36x^2 - 25$

2. Expand the following expression into standard form.

$$(4x + 5)(9x + 7)$$

$36x^2 + 28x + 45x + 35$

$36x^2 + 73x + 35$

3. Expand the following expression into standard form.

$$(7x - 6)^2$$

$49x^2 - 42x - 42x + 36$

$49x^2 - 84x + 36$

4. Solve the equation.

$$(5x - 9)(3x + 7) = 0$$

$x = \frac{9}{5}$ $\quad$ $x = \frac{-7}{3}$

5. Solve the equation.

$$11x^2 - 12x + 9 \;=\; 4x^2 + 5x + 3$$

$$7x^2 - 17x + 6 = 0$$
$$(7x - 3)(x - 2) = 0$$
$$x = \frac{3}{7} \qquad x = 2$$

6. Factor the expression.

$$25x^2 - 49$$

$$(5x + 7)(5x - 7)$$

7. Factor the expression.

$$x^2 - 10x + 24$$

$$(x - 4)(x - 6)$$

8. Solve the equation with factoring by grouping.

$$12x^2 + 10x + 18x + 15 \;=\; 0$$

$$(2x + 3)(6x + 5) = 0$$
$$x = \frac{-3}{2} \qquad x = \frac{-5}{6}$$